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We Claim:

1. A method for determining the susceptibility of a male pig to developing boar taint comprising:
  - 5 (a) obtaining a sample from the pig; and
  - (b) detecting the levels of one or more enzymes selected from the group consisting of (i) CYP2E1; (ii) a thermostable phenol sulfotransferase and (iii) a glucuronyl transferase,wherein high levels of CYP2E1 and/or high levels of a thermostable  
10 phenol sulfotransferase and/or low levels of a glucuronyl transferase indicates that the pig has a reduced susceptibility to developing boar taint.
2. A method according to claim 1 wherein the sample is selected from the group consisting of a liver sample and blood.  
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3. A method according to claim 2 wherein levels of CYP2E1 and/or thermostable phenol sulfotransferase that are the same or higher than in a female control pig indicate that the pig has a reduced susceptibility to developing boar taint.  
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4. A method according to claim 2 wherein levels of CYP2E1 and/or thermostable phenol sulfotransferase that are higher than the levels of CYP2E1 and/or thermostable phenol sulfotransferase in a male control pig with boar taint indicate that the pig has a reduced susceptibility to  
25 developing boar taint.
5. A method according to claim 2 wherein levels of CYP2E1 and/or thermostable phenol sulfotransferase that are higher than the average levels of CYP2E1 and/or thermostable phenol sulfotransferase in a group of  
30 male control pigs with boar taint indicate that the pig has a reduced susceptibility to developing boar taint.

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6. A method according to claim 4 wherein levels of CYP2E1 that are two to three times higher than the average levels of CYP2E1 in a group of male control pigs with boar taint and/or levels of thermostable phenol sulfotransfease that are three to four times higher than the average levels
- 5 of thermostable phenol sulfotransfease in a group of male control pigs with boar taint indicate that the pig has a reduced susceptibility to developing boar taint.
7. A method for reducing or preventing boar taint comprising
- 10 enhancing the metabolism of skatole in a pig.
8. A method according to claim 7 comprising enhancing the activity of the CYP2E1 enzyme in a pig.
- 15 9. A method according to claim 8 wherein the activity of the CYP2E1 enzyme is enhanced by administering
- (a) a substance that increases the activity of the CYP2E1 enzyme; or
- (b) a substance that induces or increases the expression of the CYP2E1 gene.
- 20 10. A method according to claim 8 wherein a nucleic acid sequence encoding a CYP2E1 enzyme is introduced into a pig.
- 11 A method according to claim 7 comprising enhancing the activity of
- 25 the sulfotransferase enzyme in a pig.
12. A method according to claim 11 wherein the activity of the sulfotransferase enzyme is enhanced by administering
- 30 (a) a substance that increases the activity of the sulfotransferase enzyme; or

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(b) a substance that induces or increases the expression of the sulfotransferase gene.

13. A method according to claim 11 wherein a nucleic acid sequence  
5 encoding a sulfotransferase enzyme is introduced into a pig.

14. A method according to claim 7 comprising inhibiting the activity of the glucuronyl transferase enzyme in a pig.

10 15. A method according to claim 14 wherein the activity of the glucuronyl transferase enzyme is decreased by administering

(a) a substance that decreases the activity of the glucuronyl transferase enzyme; or

15 (b) a substance that reduces or decreases the expression of the glucuronyl transferase gene.

16. A method according to claim 14 wherein an antisense nucleic acid sequence that is complementary to a nucleic acid sequence encoding a  
20 glucuronyl transferase enzyme is introduced into a pig.

17. A method of screening for a substance that enhances the activity of CYP2E1 comprising assaying for a substance which selectively (i) enhances CYP2E1 activity, or (ii) enhances transcription and/or translation of the  
25 gene encoding CYP2E1.

18. A method according to claim 17 comprising the steps of:

(a) reacting a substrate of CYP2E1 and CYP2E1, in the presence of a test substance, under conditions such that CYP2E1 is capable of  
30 converting the substrate into a reaction product;  
(b) assaying for reaction product, unreacted substrate or unreacted CYP2E1; and (c) comparing to controls to determine if the test

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substance selectively enhances CYP2E1 activity and thereby is capable of enhancing skatole metabolism in a pig.

19. A method according to claim 17 comprising the steps of:
- 5 (a) culturing a host cell comprising a nucleic acid molecule containing a nucleic acid sequence encoding CYP2E1 and the necessary elements for the transcription or translation of the nucleic acid sequence, and optionally a reporter gene, in the presence of a test substance; and
- 10 (b) comparing the level of expression of CYP2E1, or the expression of the protein encoded by the reporter gene with a control cell transfected with a nucleic acid molecule in the absence of the test substance.
- 15 20. A method of screening for a substance that enhances the activity of sulfotransferase comprising assaying for a substance which selectively (i) enhances sulfotransferase activity, or (ii) enhances transcription and/or translation of the gene encoding sulfotransferase.
- 20 21. A method according to claim 20 comprising the steps of:
- (a) reacting a substrate of sulfotransferase and sulfotransferase, in the presence of a test substance, under conditions such that sulfotransferase is capable of converting the substrate into a reaction product;
- 25 (b) assaying for reaction product, unreacted substrate or unreacted sulfotransferase; and
- (c) comparing to controls to determine if the test substance selectively enhances sulfotransferase activity and thereby is capable of enhancing skatole metabolism in a pig.
- 30 22. A method according to claim 20 comprising the steps of:

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- 5 (a) culturing a host cell comprising a nucleic acid molecule containing a nucleic acid sequence encoding sulfortransferase and the necessary elements for the transcription or translation of the nucleic acid sequence, and optionally a reporter gene, in the presence of a test substance; and
- (b) comparing the level of expression of sulfortransferase, or the expression of the protein encoded by the reporter gene with a control cell transfected with a nucleic acid molecule in the absence of the test substance.

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23. A method of screening for a substance that inhibits the activity of glucuronyl transferase comprising assaying for a substance which selectively (i) inhibits glucuronyl transferase activity, or (ii) inhibits transcription and/or translation of the gene encoding glucuronyl

15 transferase.

24. A method according to claim 20 comprising the steps of:

- 20 (a) reacting a substrate of glucuronyl transferase and glucuronyl transferase, in the presence of a test substance, under conditions such that glucuronyl transferase is capable of converting the substrate into a reaction product;
- (b) assaying for reaction product, unreacted substrate or unreacted glucuronyl transferase; and
- 25 (c) comparing to controls to determine if the test substance selectively inhibits glucuronyl transferase activity and thereby is capable of inhibiting skatole metabolism in a pig.

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25. A method according to claim 20 comprising the steps of:

- 30 (a) culturing a host cell comprising a nucleic acid molecule containing a nucleic acid sequence encoding glucuronyl transferase and the necessary elements for the transcription or

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translation of the nucleic acid sequence, and optionally a reporter gene, in the presence of a test substance; and

- (b) comparing the level of expression of glucuronyl transferase, or the expression of the protein encoded by the reporter gene with a control cell transfected with a nucleic acid molecule in the absence of the test substance.

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26. A composition for reducing or preventing skatole metabolism comprising administering an effective amount of a substance selected

10 from the group consisting of:

- (a) a substance that increases the activity of the CYP2E1 enzyme;
- (b) a substance that induces or increases the expression of the CYP2E1 gene;
- (c) a substance that increases the activity of the sulfotransferase enzyme;
- 15 (d) a substance that induces or increases the expression of the sulfotransferase gene;
- (e) a substance that decreases the activity of the glucuronyl transferase enzyme; and
- 20 (f) a substance that reduces or decreases the expression of the glucuronyl transferase gene.